

# Defining and Understanding “Co-Management” Care

Comparisons of the care delivered by specialists versus generalists suffers from several methodological problems that have not been resolved. These problems, which have persisted in the absence of sustained interest coupled with lack of funding for studies of specialty care, have made such comparisons difficult to perform and to interpret. Defining and understanding “co-management” is one of these vexing issues. A single consultation with a specialist could have a major impact on an outcome. Having more percent time or having “principal” care delivered by one provider may not be the most influential factors in improving outcomes of chronic disease care. The recommendations by the provider, the intensity of follow-up when treatment is changed, the timeliness of appropriate elements of care and of consultations, the level of interpersonal care, and even the relationship between the generalist and the specialist may be far more important than the actual time spent or the number of visits made to one or the other type of doctor.

Probably the most problematic issue in specialist/generalist comparisons is that of assessing the severity or complexity of the condition and the relevant comorbidities. Specialists have more experience, skill, and knowledge in the care for patients who have diseases in their area of expertise—the more difficult the management, the higher the degree of complexity of the conditions, the more obscure the diagnostic entities related to the condition, the better the specialist will perform, compared with the generalist, in the care of that condition.

In modern-day health care, because of treatment and diagnostic advances and because of lifestyle changes, many of the major chronic diseases have a wide spectrum of severity and patients tend to spend long periods of time in various stages. With advice from specialists, generalists may be able to manage the care of patients during milder parts of the spectrum of disease severity. If the patients

with mild disease also have multiple co-existent conditions outside the expertise of the specialist, as do many elderly patients, the generalist may be better able to provide basic care for the majority of those conditions. If specialist/generalist comparisons include many patients at the mild end of the spectrum, the specialists will be at a disadvantage, even for diseases in their area of expertise, and for which they would be expected to perform considerably better. Related to this problem is whether the care comparison is based on outcomes or processes (actions taken by the provider) and whether single or multiple outcomes are used. When the outcomes, as in diabetes, are determined to a large degree by the patient, and when the various outcomes have different predictors or conditions for their achievement, providers may do more of the “right things,” but may not necessarily bring about better outcomes.

The admirable effort by Zgibor et al. (1) in this issue of *Diabetes Care* illustrates these problems. The specialist/generalist comparison in this very well-designed and conducted long-term follow-up of patients with type 1 diabetes, a condition in which endocrinologists would undoubtedly be expected to perform better than generalists, suffers from the problems affecting these kinds of studies. The true influence of the endocrinologist may be underestimated by the way provider care was determined. Using a cutoff of 65% of patient-reported time may yield an inaccurate estimate of the actual influence of the specialist. The illness severity may not have been adequately accounted for: generalist patients were older, had a longer disease duration, had lower socioeconomic status, were less adherent to care recommendations, and smoked more than the specialist patients, a pattern that parallels specialist/generalist comparisons in earlier studies of diabetes and other chronic diseases.

Controlling for these factors in multivariable analyses may have decreased differences in blood glucose control and

complications between the two groups, despite the fact that the endocrinologists may have had to exercise more skill and knowledge in controlling the blood glucose of their patients than the generalists. The use of complications as outcomes would also tend to reduce the impact of better care because of patient factors. The use of multiple complications further clouds the performance differences because the factors that enhance or diminish each are somewhat different, as shown in Table 3 (1). Thus, unlike a randomized trial in which one outcome is primary, in which disease severity at outset is balanced, and in which the microprocesses of care are carefully measured, the conditions of an observational study, such as that conducted by Zgibor et al., may serve to reduce expected differences. Of the six outcomes, two (overt nephropathy and confirmed distal symmetric polyneuropathy) clearly favored endocrinologists; one was borderline (coronary artery disease), and the other showed no differences (proliferative retinopathy and lower-extremity arterial disease).

Nonetheless, for patients with type 1 diabetes, the conclusions by Zgibor et al. may be too conservative. The difficulty in controlling blood glucose in these patients is likely to be better overcome by endocrinologists who have experience, skill, and knowledge of the complex nature of intense control and who would most likely contribute to a reduced rate of complications for the patient. The offices and clinics of the endocrinologists may be better prepared and organized to deal with patients whose conditions are difficult to control. Unlike type 2 diabetes, in which there are multiple subgroups, such as those who have “competing comorbidities,” which may need varying levels of treatment at a given point in time for a variety of important conditions, essentially all type 1 diabetic patients need the continuous intensity achieved in the Diabetes Control and Complications Trial. It is hard to believe that this level of care can

